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U. LOWELL PROFESSOR
STUDIES RELATIONSHIP BETWEEN DEGREES AND CAREERS

By Paul F. Marion

LOWELL, MASS. - Robert Frost was a chicken farmer and Albert Einstein worked in a patent office before each made his mark in another field. The idea of changing fields is common enough to go unnoticed until one takes a close look at how pervasive the phenomenon is, and what the behavior means for college students preparing for their futures.

Dr. Phyllis "Ricki" Sweet, a psychology professor at the University of Lowell, has been investigating what people in her discipline call "Field Switching" with a grant from the National Science Foundation. She became interested in the subject after listening for years to students talking about future careers. A psychology major, for instance, working part-time in a supermarket would tell her he expected to work there permanently after graduation. He'd say, "It doesn't make a difference . . . there are no jobs anyway." Dr. Sweet began to wonder how typical was the student attitude of "My work doesn't matter."

Ricki Sweet believes there are different expectations among first generation college students at public institutions. She is a first generation college graduate, and her parents, the children of immigrants, were the first American-born and first high school graduates in the family. This background declared, "You go to college to get a job," and she sees the same family expectations in state college students.

"If students aren't from the leisure class, you can't tell them to take a course because they like it . . . you have to talk vocational payoff. Sure, tell them about an exciting and interesting discipline, but also say don't expect to get a job as a direct result of this," says Dr. Sweet.

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Concerned about how students fare after raduation, and hopef their professors can advise them more wisely, Dr. Sweet approached th National Science Foundation with her idea. There had been a similar study involving doctoral degrees, but none with bachelor degrees.

She began her study last fall, using as a sample the national science and engineering baccalaureate graduates, classes of 1974 and 1975. This included majors in engineering, chemistry, physics, psychology, biosciences, mathematics, earth science, and social sciences.

Dr. Sweet has determined that 75% of those young science and engineering graduates did not take jobs in their major field of study. Not only is she interested in what fields they entered, but also how related is the cross over.

One trend that her research has established is that people will make concessions in employment decisions if they are able to work either in the field they enjoy or at a job they find satisfying. For example, someone who wants to continue as a researcher will switch fields rather than give up the chance to do research. Conversely, other persons will trade off the research function in order to stay in the field of their choice. It happens that field switchers are more likely to be in research, which means that if you like research, there's a good chance you'll keep doing it somewhere.

The whole issue of functions vs. credentials is interesting. Dr. Sweet has noted that there are few field switchers in education and federal government. Her view is that this happens because that type of employment relies so heavily on credentials. "For some jobs you need a certain degree, and there are rigid assumptions about what you learned in college."

However, in other fields there is a concern for what functions you learned. Ricki Sweet says, "Business is more flexible." Also some fields of study offer a better general preparation. She mentions mathematics and physics as two such areas where the citical and analytical skills learned can be applied in many jobs. Dr. Sweet says, "A math major comes out beautifully," when an employer asks what the job applicant can do.

The research to this point has yielded the following figures for employment opportunities in the fields examined. Of the graduates studied, engineering topped the list with 94 jobs available for every 100 graduates. Chemistry follows with 78, and the list continues in descending order: Earth Science, 55; Biosciences, 52; Physics, 35; Psychology, 18; Social Sciences, 13; and Mathematics, 6.

Dr. Sweet does not want to be construed as opposed to the philosophy of arts, but her findings regarding occupational pay-off are not encouraging. The 13% figure in social sciences covers areas such as public administration, linguistics, political science, anthropology, sociology, and economics. The only one showing promise is public administration, where 25% find positions. In sociology 93% leave the field, in political science 95% leave the field, and in linguistics 100% go elsewhere. Where do they go for work? About 50% enter the business field with their B.S. Degrees.

Dr. Sweet's final report, due in 1980, should provide important information for education planners and teachers. The statistics will show where the best chances are for finding employment -- ranging from the best bet in engineering to the least encouraging, mathematics But her findings also show that a field like mathematics or economics is a very good general preparation for business work. So, even though the chances of being a paid economist or mathematician are slim, it may be a wise choice to study that area.

Already, Dr. Sweet has been delivering the findings to professional groups around the country. The engineering research was presented to the Eastern Educational Research Association Conference at Kiawah Island, South Carolina. In April 1979 she traveled to New Orleans to speak about the Bioscience findings, and she will present the Psychology results at the American Psychology Association Conference in September. Working with her on the project are computer analyst Steve Nigzus, a former student of her's, and research assistant Paula Potvin, a student at the University of Lowell. Additional support has been provided by the University of Lowell Research Foundation. Eventually she intends to collect the material in book form.

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In general Ricki Sweet points out, "field mobility is helpful in getting a job for highly educated persons," and recommends, "women and minorities enter fields in which they're under-represented such as engineering and physics. Both groups have made progress in the seventies but still have a potential of greater improvement." She feels professors have a responsibility to make sure students get the alternative skills they'll need to survive, and above all she encourages college students to "Think broad."

Oh yes, Dr. Sweet is a field switcher. Her bachelor's degree from Boston University was in Philosophy and Religion.

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